```
UUU         UUU  EEEEEEEEEEEEEEE  TTTTTTTTTTTTTTT  PPPPPPPPPPPP
UUU         UUU  EEEEEEEEEEEEEEE  TTTTTTTTTTTTTTT  PPPPPPPPPPPPP
UUU         UUU  EEEEEEEEEEEEEEE  TTTTTTTTTTTTTTT  PPPPPPPPPPPP
UUU         UUU  EEE                    TTT        PPP         PPP
UUU         UUU  EEE                    TTT        PPP         PPP
UUU         UUU  EEE                    TTT        PPP         PPP
UUU         UUU  EEE                    TTT        PPP         PPP
UUU         UUU  EEE                    TTT        PPP         PPP
UUU         UUU  EEE                    TTT        PPP         PPP
UUU         UUU  EEEEEEEEEEEE           TTT        PPPPPPPPPPPP
UUU         UUU  EEEEEEEEEEEE           TTT        PPPPPPPPPPPP
UUU         UUU  EEEEEEEEEEEE           TTT        PPPPPPPPPPPP
UUU         UUU  EEE                    TTT        PPP
UUU         UUU  EEE                    TTT        PPP
UUU         UUU  EEE                    TTT        PPP
UUU         UUU  EEE                    TTT        PPP
UUU         UUU  EEE                    TTT        PPP
UUU         UUU  EEE                    TTT        PPP
UUUUUUUUUUUUUUU  EEEEEEEEEEEEEEE        TTT        PPP
UUUUUUUUUUUUUUU  EEEEEEEEEEEEEEE        TTT        PPP
UUUUUUUUUUUUUUU  EEEEEEEEEEEEEEE        TTT        PPP
```

```
UU      UU  EEEEEEEEEE  TTTTTTTTTT  FFFFFFFFFF    000000    RRRRRRRR    TTTTTTTTTT    000000      222222
UU      UU  EEEEEEEEEE  TTTTTTTTTT  FFFFFFFFFF    000000    RRRRRRRR    TTTTTTTTTT    000000      222222
UU      UU  EE              TT      FF          00      00  RR      RR      TT      00      00  22      22
UU      UU  EE              TT      FF          00      00  RR      RR      TT      00      00  22      22
UU      UU  EE              TT      FF          00      00  RR      RR      TT      00    0000          22
UU      UU  EE              TT      FF          00      00  RR      RR      TT      00    0000          22
UU      UU  EEEEEEEE        TT      FFFFFFFF    00      00  RRRRRRRR        TT      00  00  00        22
UU      UU  EEEEEEEE        TT      FFFFFFFF    00      00  RRRRRRRR        TT      00  00  00        22
UU      UU  EE              TT      FF          00      00  RR  RR          TT      0000    00      22
UU      UU  EE              TT      FF          00      00  RR  RR          TT      0000    00      22
UU      UU  EE              TT      FF          00      00  RR    RR        TT      00      00    22
UU      UU  EE              TT      FF          00      00  RR    RR        TT      00      00    22
UUUUUUUUUU  EEEEEEEEEE      TT      FF            000000    RR      RR      TT        000000    2222222222
UUUUUUUUUU  EEEEEEEEEE      TT      FF            000000    RR      RR      TT        000000    2222222222


LL              IIIIII      SSSSSSSS
LL              IIIIII      SSSSSSSS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II      SS
LL                II        SSSSSS
LL                II        SSSSSS
LL                II              SS
LL                II              SS
LL                II              SS
LL                II              SS
LLLLLLLLLL      IIIIII    SSSSSSSS
LLLLLLLLLL      IIIIII    SSSSSSSS
```

```
0001     C
0002     C Version:      'V04-000'
0003     C
0004     C*****************************************************************************
0005     C*                                                                           *
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0023     C*                                                                           *
0024     C*                                                                           *
0025     C*****************************************************************************
0026
0027     C*****************************************************************************P0890010
0028     C*****                                                                       P0890020
0029     C*****                        DPSIN - 089                                    P0890030
0030     C*****                                                                       P0890040
0031     C*****************************************************************************P0890050
0032     C*****  GENERAL PURPOSE                                              ASA REFP0890060
0033     C*****     TO TEST BASIC EXTERNAL FUNCTION - DSIN -                  8.3.3  P0890070
0034     C*****     TRIGONOMETRIC SINE - TYPE DOUBLE PRECISION                TABLE 4P0890080
0035     C*****     SAME AS SEGMENT 088 EXCEPT D.P.                                 P0890090
0036     C*****     INTRINSIC FUNCTION DSIGN ASSUMED WORKING                        P0890100
0037     C*****     ARGUMENTS FROM 0 TO 2 PI                                        P0890110
0038     C*****                                                                     P0890120
0039     C*****  S P E C I F I C A T I O N S  SEGMENT 089                            P0890130
0040     C*****                                                                     P0012050
0041     C*****  WHEN EXECUTING ONLY SEGMENT 089, THE SPECIFICATION STATEMENTS      P0012055
0042     C*****  WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=                     P0012060
0043     C*****  IN COLUMNS  1  AND  2  REMOVED.                                    P0012065
0044     C*****                                                                     P0012070
0045     C=    DOUBLE PRECISION AVD, BVD, CVD, DVD, EVD, PIVD, XVD, FVD, GVD      P0012075
0046           PROGRAM UETFORT02
0047          DOUBLE PRECISION AVD, BVD, CVD, DVD, EVD, PIVD, XVD, FVD, GVD      P089A1
0048     C*****                                                                     P0012080
0049     C*****  O U T P U T  T A P E  ASSIGNMENT STATEMENT.  NO INPUT TAPE.        P0890140
0050     C*****                                                                     P0071780
0051     C*****  WHEN EXECUTING ONLY SEGMENT 089, THE FOLLOWING STATEMENT          P0071785
0052     C*****  NUVI = 6  MUST HAVE THE C= IN COLUMNS 1 AND 2 REMOVED.            P0071790
0053     C=    NUVI = 6                                                           P0071795
0054          NUVI = 6                                                           P089B1
0055     C*****                                                                     P0071800
0056     890   FORMAT(15H1 DPSIN - (089)//32H  BASIC EXTERNAL FUNCTION -DSIN-     P0890150
0057          1//33H  (TRIGONOMETRIC SINE -TYPE D.P.)                            P0890160
```

```
0058          2//27H  ASA REF.- 8.3.3 (TABLE 4)//24H  LINE 1 OF EACH PAIR IS/23H P0890170
0059          3 HOLLERITH INFORMATION//9H  RESULTS)                             P0890180
0060           WRITE (NUVI, 890)                                                P0890190
0061     C*****    HEADER FOR SEGMENT 089 WRITTEN                                P0890200
0062           AVD = 3.140625D+0                                                P0890210
0063           BVD = 0.9613037109375D-3                                         P0890220
0064           CVD = 0.5722045898437 5D-5                                       P0890230
0065           DVD = 0.5960464477539 06D-6                                      P0890240
0066           EVD = 0.3178650954705 6D-7                                       P0890250
0067     C*****PI IS SUM OF AVD TO EVD, PARTS ARE EXPRESSED IN SUMS OF POWERS OF P0890260
0068     C*****2, TO PERMIT A POSSIBLE 20 DECIMAL DIGIT ARGUMENT TO BE CREATED  P0890270
0069           PIVD = EVD + DVD + CVD + BVD + AVD                               P0890280
0070           FVD = 1.0D0                                                      P0890290
0071           GVD = 2.0D0                                                      P0890300
0072           XVD = DSIN(GVD - 2.0D0 * FVD)                                    P0890310
0073           WRITE (NUVI, 891) XVD                                            P0890320
0074           XVD = DSIN(FVD)                                                  P0890330
0075           WRITE (NUVI, 892) XVD                                            P0890340
0076           XVD = DSIN(GVD)                                                  P0890350
0077           WRITE (NUVI, 893) XVD                                            P0890360
0078           XVD = DSIN(GVD + FVD)                                            P0890370
0079           WRITE (NUVI, 894) XVD                                            P0890380
0080           XVD = DSIN(PIVD)                                                 P0890390
0081           WRITE (NUVI, 895) XVD                                            P0890400
0082           XVD = DSIN(2. * GVD)                                             P0890410
0083           WRITE (NUVI, 896) XVD                                            P0890420
0084           XVD = DSIN(2.0 +FVD + GVD)                                       P0890430
0085           WRITE (NUVI, 897) XVD                                            P0890440
0086           XVD = DSIN(GVD * (FVD + GVD))                                    P0890450
0087           WRITE (NUVI, 898) XVD                                            P0890460
0088           XVD = DSIN(DSIGN(2.0D0 * PIVD, GVD))                             P0890470
0089           WRITE (NUVI, 899) XVD                                            P0890480
0090           WRITE (NUVI, 7890)                                               P0890490
0091     891   FORMAT(9H0 X= 0.0 ,  31H  0.0000000000000000000000     / D31.14) P0890500
0092     892   FORMAT(9H0 X= 1.0 ,  31H +0.8414709848078965 0665250D+00 /D31.14) P0890510
0093     893   FORMAT(9H0 X= 2.0 ,  31H +0.9092974268256816 9539602D+00 /D31.14) P0890520
0094     894   FORMAT(9H0 X= 3.0 ,  31H +0.1411200080598672 22210074D+00 /D31.14) P0890530
0095     895   FORMAT(9H0 X= (PI),  31H  0.0000000000000000000000     / D31.14) P0890540
0096     896   FORMAT(9H0 X= 4.0 ,  31H -0.7568024953079282 5137264D+00 /D31.14) P0890550
0097     897   FORMAT(9H0 X= 5.0 ,  31H -0.9589242746631384 6889315D+00 / D31.14) P0890560
0098     898   FORMAT(9H0 X= 6.0 ,  31H -0.2794154981989258 7281156D+00 / D31.14) P0890570
0099     899   FORMAT(9H0 X=(2PI),  31H  0.0000000000000000000000     / D31.14) P0890580
0100     7890  FORMAT(//37H  LINE 2 OF EACH PAIR IS THE FUNCTION/25H  CALCULATIONP0890590
0101          A PRINTED TO ,9H14 DIGITS)                                       P0890600
0102     C*****    END OF TEST SEGMENT 089                                     P0890610
0103     C*****  WHEN EXECUTING ONLY SEGMENT 089, THE  STOP  AND  END  CARDS   P0890620
0104     C*****  WHICH APPEAR AS COMMENT CARDS MUST HAVE THE C=                P0890630
0105     C*****  IN COLUMNS  1  AND  2  REMOVED.                               P0890640
0106     C=     STOP                                                           P0890650
0107     C=     END                                                            P0890660
0108           STOP                                                           P089C1
0109           END                                                            P089C2
```

PROGRAM SECTIONS

	Name	Bytes	Attributes
0	$CODE	601	PIC CON REL LCL SHR EXE RD NOWRT LONG
1	$PDATA	711	PIC CON REL LCL SHR NOEXE RD NOWRT LONG
2	$LOCAL	96	PIC CON REL LCL NOSHR NOEXE RD WRT QUAD
	Total Space Allocated	1408	

ENTRY POINTS

Address	Type	Name
0-00000000		UETFORT02

VARIABLES

Address	Type	Name	Address	Type	Name	Address	Type	Name	Address	Type	Name
2-00000000	R*8	AVD	2-00000008	R*8	BVD	2-00000010	R*8	CVD	2-00000018	R*8	DVD
2-00000020	R*8	EVD	2-00000038	R*8	FVD	2-00000040	R*8	GVD	2-00000048	I*4	NUVI
2-00000028	R*8	PIVD	2-00000030	R*8	XVD						

LABELS

Address	Label	Address	Label	Address	Label	Address	Label	Address	Label	Address	Label
1-00000000	890'	1-000000BD	891'	1-000000EE	892'	1-0000011F	893'	1-00000150	894'	1-00000181	895'
1-000001B2	896'	1-000001E3	897'	1-00000214	898'	1-00000245	899'	1-00000276	7890'		

FUNCTIONS AND SUBROUTINES REFERENCED

Type	Name	Type	Name
R*8	MTH$DSIGN	R*8	MTH$DSIN

COMMAND QUALIFIERS

```
FORTRAN /LIS=LIS$:UETFORT02/OBJ=OBJ$:UETFORT02 MSRC$:UETFORT02

/CHECK=(NOBOUNDS,OVERFLOW,NOUNDERFLOW)
/DEBUG=(NOSYMBOLS,TRACEBACK)
/STANDARD=(NOSYNTAX,NOSOURCE_FORM)
/SHOW=(NOPREPROCESSOR,NOINCLUDE,MAP)
/F77  /NOG_FLOATING  /I4  /OPTIMIZE  /WARNINGS  /NOD_LINES  /NOCROSS_REFERENCE  /NOMACHINE_CODE  /CONTINUATIONS=19
```

COMPILATION STATISTICS

Run Time:	1.93 seconds
Elapsed Time:	5.96 seconds
Page Faults:	109
Dynamic Memory:	168 pages

4B

6F

2D

72

20
20
2F
74
4F

74
5F
73
25

20
20

20
63
64
75

UETFORT03
LIS

UETFORT01
LIS

UETLPAK00
LIS

UETNETS00
LIS

UETDR1W00
LIS

UETFORT02
LIS